

ELECTRONIC CONTROL SYSTEM DIAGNOSTICS

0000002941
Revision 1

MAXXFORCE

MAXXFORCE®11 and 13
Beginning with 2010 Model Year

WARNING

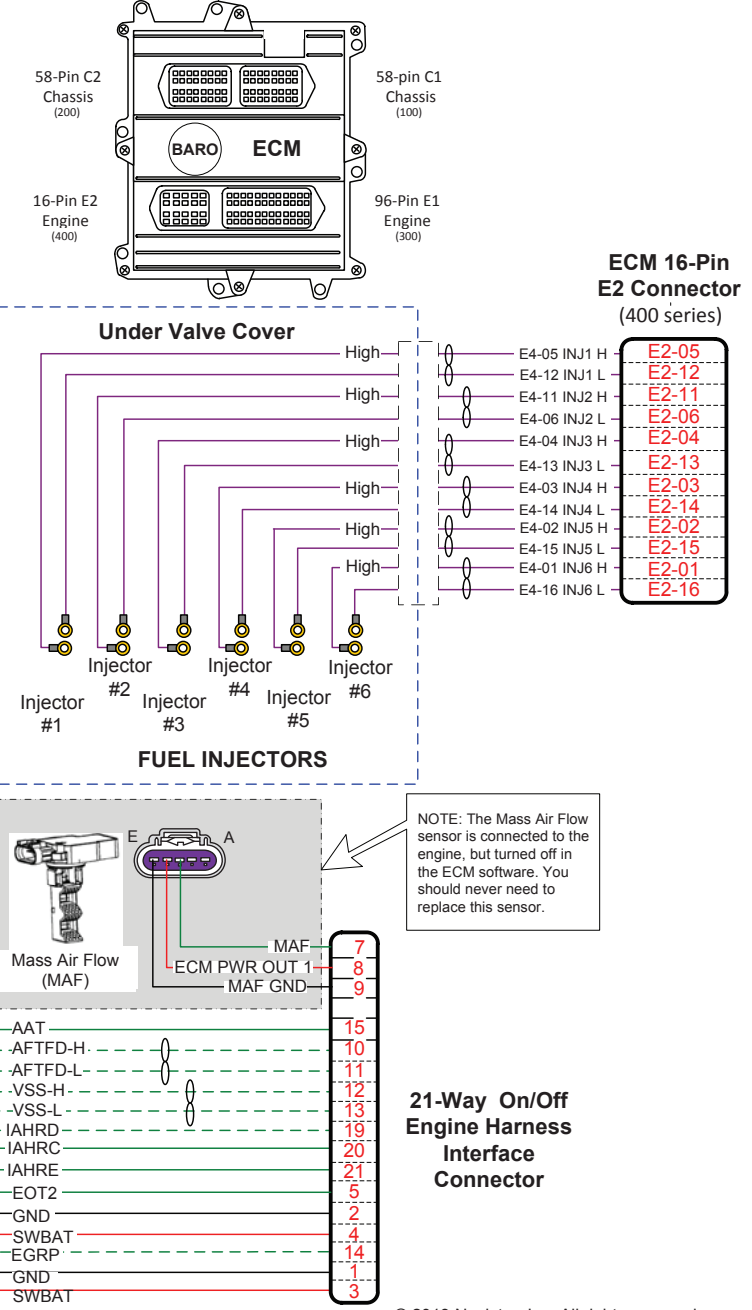
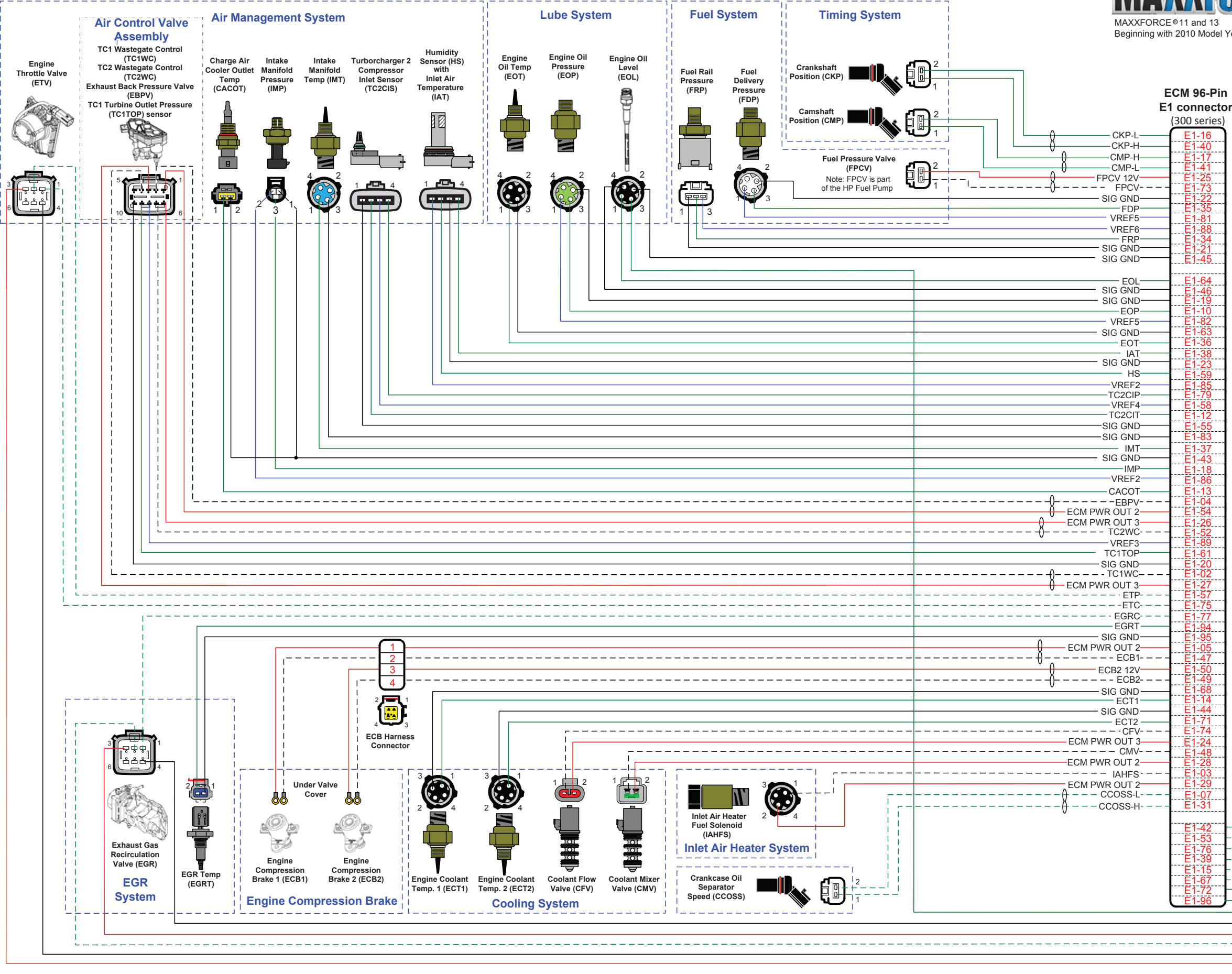
To prevent personal injury or death, read all safety instructions in the "Safety Information" section of *Engine Diagnostics Manual* 0000001741 before doing any diagnostic procedures.

Information on this form was current at the time of publication. Updates may have been made to introduce product improvements and technical advancements. See correct truck service manual for chassis wiring.

For detailed circuit information, refer to the following Truck documents:

- *Chassis Electrical Circuit Diagram Manual*
- *Electrical System Troubleshooting Guide*

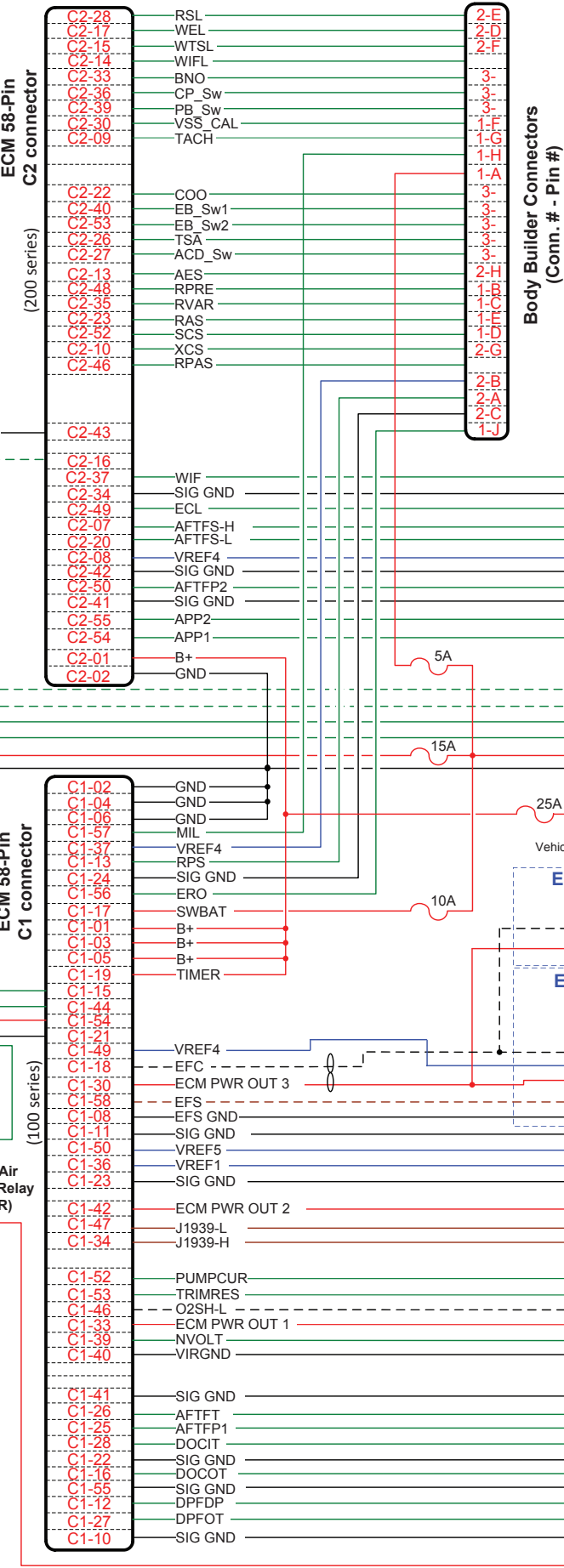
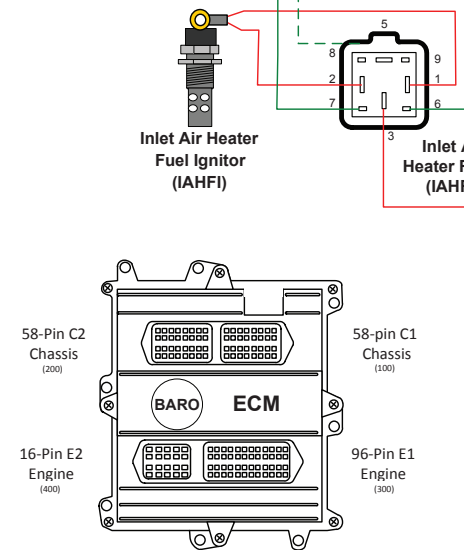
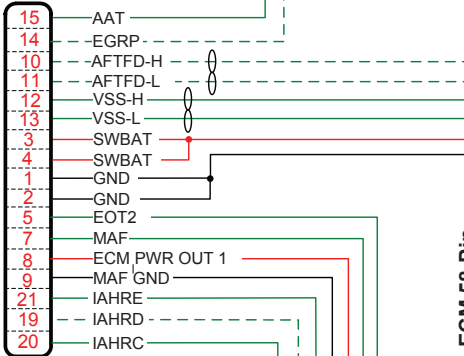
Color code for schematic lines	
Red	B+ (Battery Voltage)
Red	High side driver control
Purple	Injectors (48 Volts)
Blue	VREF (5 Volts)
Green	Signal
Green	PWM - Signal
Brown	Data Communication
Black	GND (Ground)
Black	Low side driver control



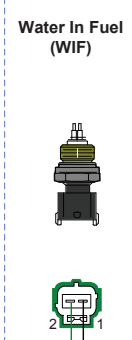
Typical Vehicle Side Connections

Color code for schematic lines		
Red	-----	B+ (Battery Voltage)
Red	- - - - -	High side driver control
Purple	-----	Injectors (48 Volts)
Blue	-----	VREF (5 Volts)
Green	-----	Signal
Green	- - - - -	PWM - Signal
Brown	-----	Data Communication
Black	-----	GND (Ground)
Black	- - - - -	Low side driver control

21-Way On/Off Engine Harness Interface Connector



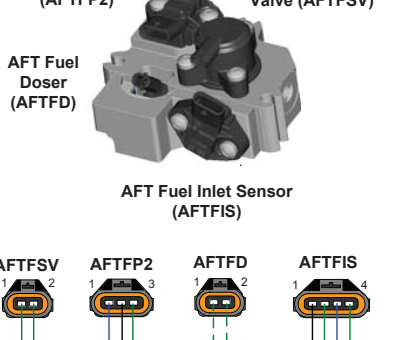
Fuel System



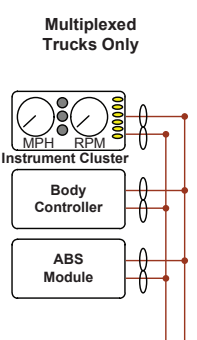
Cooling System



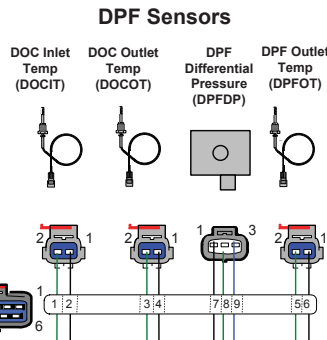
Down Stream Injection (DSI)



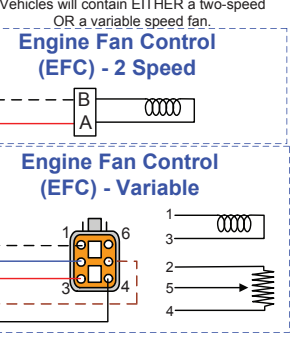
Other CAN Connections



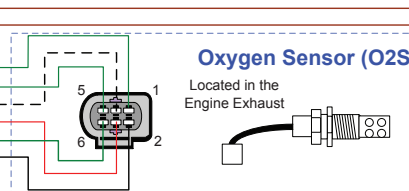
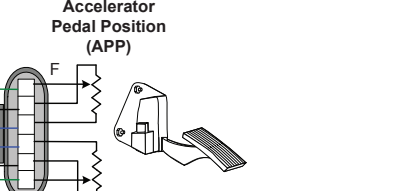
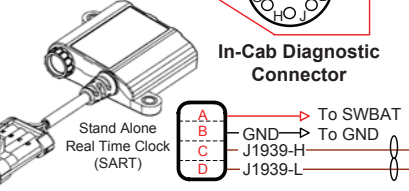
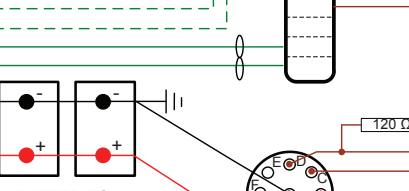
Exhaust Sensors



Ignition Switch



Transmission Conn



Circuit and Component Names

AAT	Ambient Air Temperature
AFTFD-H	Aftertreatment Fuel Doser High
AFTFD-L	Aftertreatment Fuel Doser Low
AFTFIT	Aftertreatment Fuel Inlet Temperature
AFTFP1	Aftertreatment Fuel Pressure 1
AFTFP2	Aftertreatment Fuel Pressure 2
AFTFS-H	Aftertreatment Fuel Shutoff High
AFTFS-L	Aftertreatment Fuel Shutoff Low
AFTFSV	Aftertreatment Fuel Shutoff Valve
APP1	Accelerator Pedal Position 1
APP2	Accelerator Pedal Position 2
CACOT	Charge Air Cooler Outlet Temperature
CCOSS	Crankcase Oil Separator Speed
CFV	Coolant Flow Valve
CKP-H	Crankshaft Position High
CKP-L	Crankshaft Position Low
CMP-H	Camshaft Position High
CMP-L	Camshaft Position Low
CMV	Coolant Mixer Valve
DOCIT	Diesel Oxidation Catalyst Inlet Temperature
DOCOT	Diesel Oxidation Catalyst Outlet Temperature
DPFDP	Diesel Particulate Filter Differential Pressure
DPFOT	Diesel Particulate Filter Outlet Temperature
EBP	Exhaust Back Pressure
EBPV	Exhaust Back Pressure Valve
ECB1	Engine Compression Brake 1
ECB2	Engine Compression Brake 2
ECL	Engine Coolant Level
ECM GND	ECM Ground
ECM PWR	ECM Power
ECT1	Engine Coolant Temperature 1
ECT2	Engine Coolant Temperature 2
EFC	Engine Fan Control
EFS	Engine Fan Speed
EGRC	Exhaust Gas Recirculation Control
EGRP	Exhaust Gas Recirculation Position
EGRT	Exhaust Gas Recirculation Temperature
EOL	Engine Oil Level
EOP	Engine Oil Pressure
EOT	Engine Oil Temperature
EOT2	Engine Oil Temperature 2
ETC	Engine Throttle Control
ETP	Engine Throttle Position
ETV	Engine Throttle Valve
FDP	Fuel Delivery Pressure
FPCV	Fuel Pressure Control Valve
FRP	Fuel Rail Pressure
HS	Humidity sensor
IAHR	Inlet Air Heater Relay
IAHRC	Inlet Air Heater Relay Control
IAHRD	Inlet Air Heater Relay Diagnostic
IAHRE	Inlet Air Heater Relay Enable
IAHFI	Inlet Air Heater Fuel Igniter
IAHFS	Inlet Air Heater Fuel Solenoid
IAT	Inlet Air Temperature
IMP	Intake Manifold Pressure
IMT	Intake Manifold Temperature
J1939-H	J1939 Data Link High
J1939-L	J1939 Data Link Low
MAF	Mass Air Flow
O2S	Oxygen Sensor
O2SH	Oxygen Sensor Heater
OWL	Oil Warn Lamp
RAPP	Remote Accel Pedal Position
RAS	Resume Accel Switch
RPRE	Remote Preset PTO
RVAR	Remote Variable PTO
SART	Stand Alone Real Time Clock
SIG GND	Signal Ground
SWBAT	Switch Battery
TACH	Tachometer
TC1TOP	Turbocharger 1 Turbine Outlet Pressure
TC1WC	Turbocharger 1 Wastegate Control
TC2WC	Turbocharger 2 Wastegate Control
TC2CIS	Turbocharger 2 Compression Inlet Pressure
TC2CIS	Turbocharger 2 Compression Inlet Sensor
TC2CIT	Turbocharger 2 Compression Inlet Temperature
TDE	Transmission Driveline Engaged
TOP	Transmission Oil Pressure
TOSS	Transmission Output Shaft Speed
TOT	Transmission Oil Temperature
VREF	Voltage Reference
VSO	Vehicle Speed Output
VSS-H	Vehicle Speed Signal-H
VSS-L	Vehicle Speed Signal-L
WEL	Warn Engine Lamp
WIF	Water In Fuel
WIFL	Water In Fuel Lamp
XCS	Transferrcase